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1,048,690

PATENT SPECIFICATION

DRAWINGS ATTACHED

1,048,690

Inventor: DAVID CHARLES KIRBY

Date of filing Complete Specification: April 20, 1965.

Application Date: May 27, 1964. No. 21957/64.

(Patent of Addition to No. 1,048,684 dated July 8, 1963.)

Complete Specification Published: Nov. 16, 1966.

Index at acceptance:—E1 A26; A4 N2B

Int. Cl.:—E 04 h 11/10 // A 47 k

COMPLETE SPECIFICATION

Prefabricated Building Structures

We, IMPERIAL CHEMICAL INDUSTRIES LIMITED, of Imperial Chemical House, Millbank, London, S.W.1, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to prefabricated building structures and in particular to prefabricated bathrooms made from synthetic thermoplastic polymeric materials.

In our copending cognate Applications Nos. 47458/62, and 26896/63 we describe and claim a prefabricated utility room, in particular a bathroom, comprising at least one moulded section made from a sheet of synthetic thermoplastic polymeric material, said section forming the whole of one wall, the ceiling or the floor of the room and at least part of one or more of the adjacent walls, or of the floor or the ceiling, and in which moulded section, recesses and/or protuberances were formed to provide at least some of the functional parts of the room, e.g. baths and wash basin, or to provide means for receiving liners or other articles which form functional parts of the room.

According to the present invention we provide a bathroom constituted by a utility room as claimed in claim 1 of our copending cognate Applications Nos. 47458/62 (Serial No. 1048684), and 26896/63 (Serial No. 1048684) in which a partition is formed as part of at least one moulded section, said partition extending between two opposite walls of at least the bottom half of the room so as to divide at least the bottom half of the room into two parts, the partition having a greater height near the two walls of the room than in its centre, the partition and the wall between said two opposite walls forming the sides of a bath and the said two walls forming the ends of the bath.

Preferably the room is made from two moulded sections joined in the horizontal plane. In this case one section forms the lower half of the room while the other section forms the upper half.

Considering the lower section in the above case, it is provided with a partition which is formed as part of the moulding, the partition having a central portion of lesser height than at the walls, the central portion being of sufficient height to give a bath of sufficient depth.

The upper section is preferably arranged with projections from the walls matching the shape of the parts of the partition near the walls. These projections may be tapered to fade into the line of the walls so that towards the upper part of the upper section no projections occur. Alternatively the line of the projections may be continued up to the ceiling thereby forming an alcove in the end of the room containing the bath. In this case we prefer that the projections are joined one to another at the top of the upper section of the room to form an arch. In this case the part of the room not containing the bath has a ceiling higher than the arch. The ceiling of the alcove formed by the partition and projections and containing the bath may be of the same height as the ceiling of the rest of the room. Alternatively, it may be of a different height.

Since it is unnecessary to provide a bath having sufficient headroom to enable a person to stand in each end, we prefer that the ceiling of the alcove is inclined at one end of the bath. This enables a water cistern or tank to be fitted to the exterior of the room above the inclined ceiling of the alcove without it projecting from the cube or right-angled parallelepiped from which the room can be considered to be derived. A further advantage of an inclined ceiling is that a shower fitting may be situated at such a level on the inclined ceiling, for example 5 feet above the bottom of the bath, so that ladies may take showers without wetting their hair.

The partition need not extend at right-

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angles between the two opposite walls but may be inclined in order to provide a bath that is narrower at one end than the other.

The invention is illustrated but in no way limited by reference to the drawings accompanying the Provisional Specification wherein:—

Figure 1 is a perspective view of a bottom half of a bathroom

Figure 2 is a section in the plane ABCD of Figure 1

Figure 3 is a perspective cut-away view of an assembled bathroom

Figure 4 is a plan view looking upwards, of a bathroom similar to that shown in Figure 3 but having an inclined ceiling in the alcove part of the room

Figure 5 is a section along the line V—V of Figure 4

Figure 6 is a section along the line VI—VI of Figure 4

Figure 7 is a view similar to that of Figure 3 but in which a different bathroom is shown.

In Figure 1 there is shown a section 1 forming the bottom half of a bathroom. The section is moulded by a conventional vacuum forming process from a sheet of polymethyl methacrylate 8 feet by 6 feet. A wash basin 2 is formed in one corner. A partition 3 is formed as part of the moulding between the walls 4 and 5 of the section. This divides the section 1 into two portions 6 and 7. Portion 7 forms the bath, the sides being defined by wall 8 and the partition 3. The ends of the bath are defined by walls 4 and 5. The central portion 9 of the partition 3 has a lesser height than the parts 10, 11 of the partition 3 near the walls 4 and 5. The height of the central portion 9 of the partition 3 is great enough to provide a bath of sufficient depth. In this particular case it is about 18 inches high. This is shown in Figure 2.

In Figure 3 two halves of a room are shown joined together. The lower half 12 is similar to that in Figures 1 and 2. The upper half 13 has projections 14, 15 extending inwardly from each wall 16, 17. These projections follow the curvature of the partition 18 in the bottom half of the room and are joined together at the top of the upper half of the room to form an arch 19. In this Figure the two parts of the room are shown having ceilings 20, 21 at the same level. The two halves are fastened together by cementing together the flanges 22, 23 on the upper and lower halves respectively. The parts of these flanges in the recesses formed by the partition 18 and projections 14 and 15 are cut away so that for example the plumbing and heating ducts can be situated in these recesses.

In Figures 4 to 6 a plan view of a bathroom is shown in which the alcove 24 containing the bath has a ceiling 25 of lower height than the ceiling 26 of the rest of the room. The ceiling 25 also has an inclined portion 27 behind which a water tank (shown in broken lines at 28 in Figure 5) may be situated. The two parts 24 and 29 of the room are separated by a partition 30 in the lower half of the room and by projections 31 and 32 in the upper half. The partition 30 has a central portion 33 of lesser height than the portions 34 near the walls of the room. The projections 31 and 32 are so shaped as to follow the curvature of the partition 30 and are joined in the upper portion of the top half of the room to form an arch 35. The flanges used to join the upper and lower sections are shown at 36 and 37. A shower fitting 38 is fitted on the inclined portion 27 of ceiling 25.

In Figure 7 another bathroom is shown. In this room the two sections 39 and 40 form the upper and lower halves of the room. The room is divided into two parts, one part forming a bath alcove, the other forming the rest of the room, by a partition 41. The central portion 42 of the partition is about 15 to 18 inches above the level of the base of the bath alcove. The sides of the partition 41 are so shaped to taper into the walls of the room. This is shown at 43. Thus in this case the ceiling 44 of the room is unbroken between the bath alcove and the rest of the room.

The central portion of the partition can conveniently have a recess moulded therein to form a soap dish, (not shown). Preferably this soap dish is provided with a channel moulded in the partition to drain water carried into the dish back into the bath.

It will be appreciated that the bathroom may be made from more than two moulded sections. However, we prefer that most of the room is made from two moulded sections preferably by a vacuum forming process. Although in the examples described above the sections are joined in a horizontal plane, as an alternative they may be so shaped as to be joined in a vertical plane. For example, this plane may include the plane of the partition or may be perpendicular to the plane of the partition. However, if the sections are joined in a vertical plane, difficulty may arise in making satisfactory joints between the sections to avoid unsightly lines in the room. While horizontal joints can have a pleasing appearance it is usually necessary to mask vertical joints. For this reason we prefer the joints to be in the horizontal plane.

A space for a door may be cut in the sections after moulding. This space may be in any suitable part of the room.

The sections of the room may be made of any of the thermoplastic materials listed in our copending cognate Applications Nos. 47458/62 (Serial No. 1048684) and 26896/63 (Serial No. 1048684) but preferably they are made from polymethyl methacrylate or a polymer or copolymer of vinyl chloride.

Although not shown in the drawings, the sections of the room may be reinforced by spraying a mixture of glass fibres and a polyester resin on to the mouldings and curing the

polyester resin. Alternatively, or additionally, the sections may be coated with a fireproofing composition such as a mixture of asbestos fibre and cement. Rigid foams such as polyurethane foams may also be applied to strengthen the sections or parts of sections.

WHAT WE CLAIM IS:—

1. A bathroom constituted by a utility room as claimed in claim 1 of our copending cognate Applications Nos. 47458/62 (Serial No. 1048684) and 26896/63 in which a partition is formed as part of at least one moulded section, said partition extending between opposite walls of at least the bottom half of the room so as to divide at least the bottom half of the room into two parts, the partition having a greater height near the two walls of the room than in its centre, the partition and the wall between said two opposite walls forming the sides of a bath and the said two walls forming the ends of the bath.

2. A bathroom according to claim 1 in which the room is made from an upper moulded section and a lower moulded section joined together in the horizontal plane.

3. A bathroom according to claim 2 in which the lower section is provided with a partition which is formed as part of the moulding, the partition having a central portion of lesser height than at the walls, the central portion being of sufficient height to give a bath of sufficient depth.

4. A bathroom according to claim 3 in which the upper section is arranged with projections from the walls matching the shape of the parts of the partition near the walls in the lower section.

5. A bathroom according to any of claims 1 to 4 in which the partition is tapered to fade into the line of the walls so that towards the upper part of the room there are no projections from the walls.

6. A bathroom according to any of claims 1 to 4 in which the line of the partition is continued up to the ceiling thereby forming an alcove in the end of the room containing the bath.

7. A bathroom according to claim 6 in which the projections forming the partition are joined one to another at the top of the upper part of the room to form an arch.

8. A bathroom according to any of the preceding claims in which the ceiling above the bath is inclined at one end of the bath.

9. A bathroom substantially as hereinbefore described with particular reference to the drawings accompanying the Provisional Specification.

10. A bathroom according to any of the preceding claims in which the, or each, moulded section is made from a sheet of polymethyl methacrylate.

11. A bathroom according to any of the preceding claims in which the sections are reinforced by spraying a mixture of glass fibres and a polyester resin on to the mouldings and curing the polyester resin.

12. A bathroom according to any of the preceding claims in which the sections are coated with a fire-proofing composition such as a mixture of asbestos fibre and cement.

BERTRAM F. DREW,
Agent for the Applicants.

Leamington Spa: Printed for Her Majesty's Stationery Office, by the Courier Press (Leamington) Ltd.—1966. Published by The Patent Office, 25 Southampton Buildings. London, W.C.2, from which copies may be obtained.

Fig. 2.

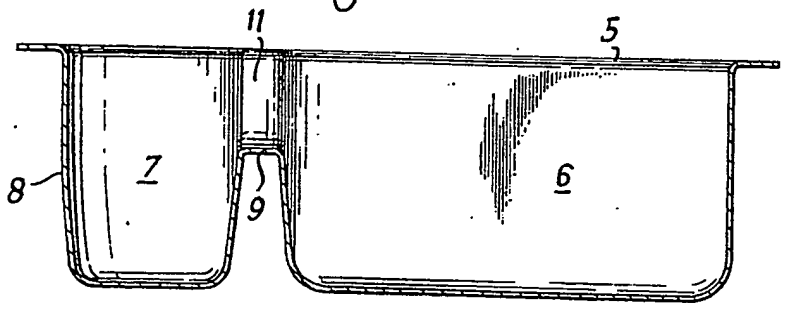
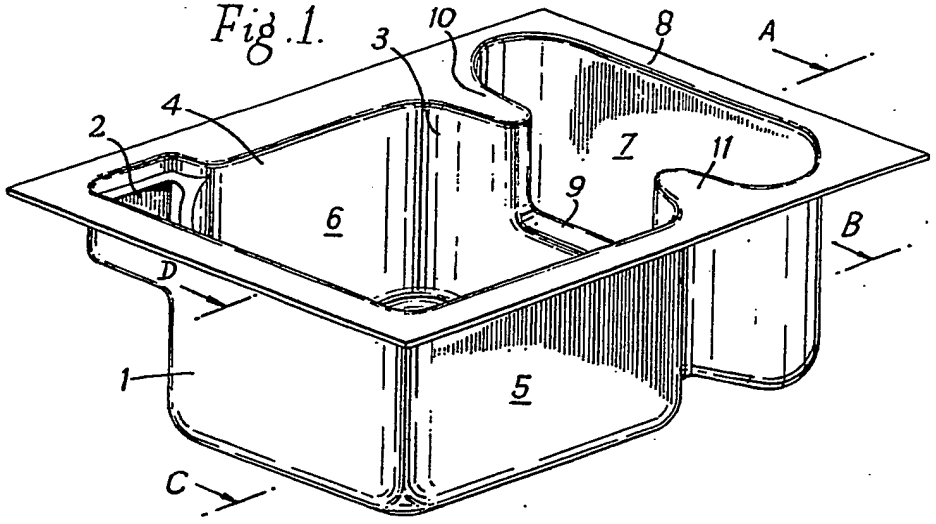


Fig. 1.



1048690 PROVISIONAL SPECIFICATION
4 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheets 1 & 2

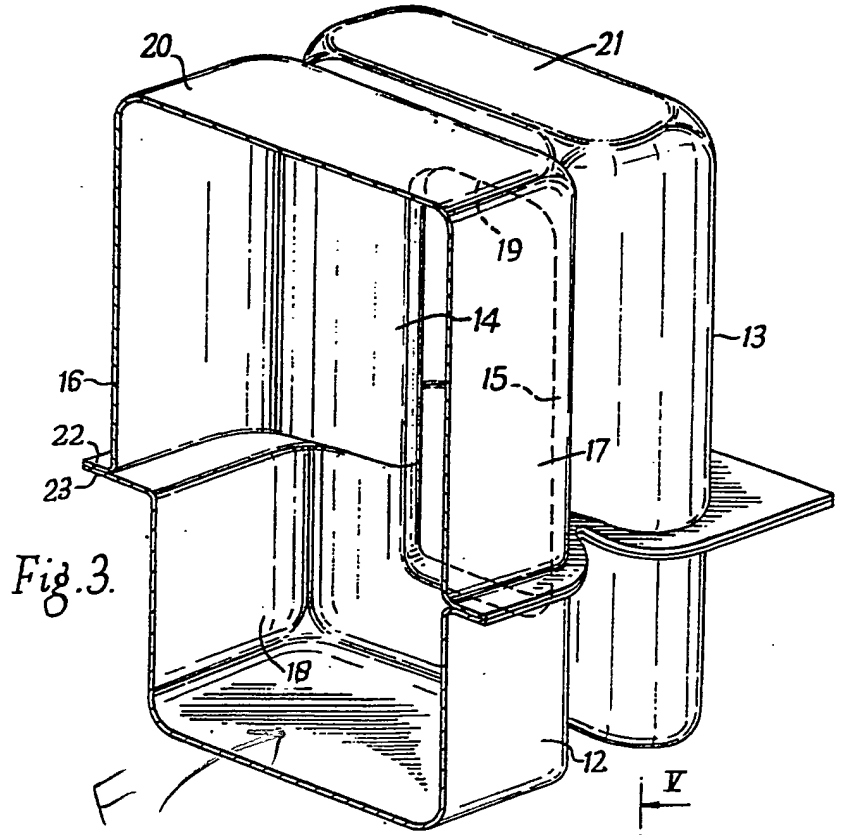
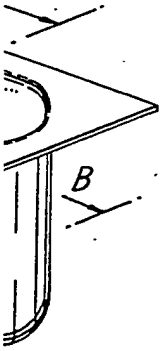


Fig.3.



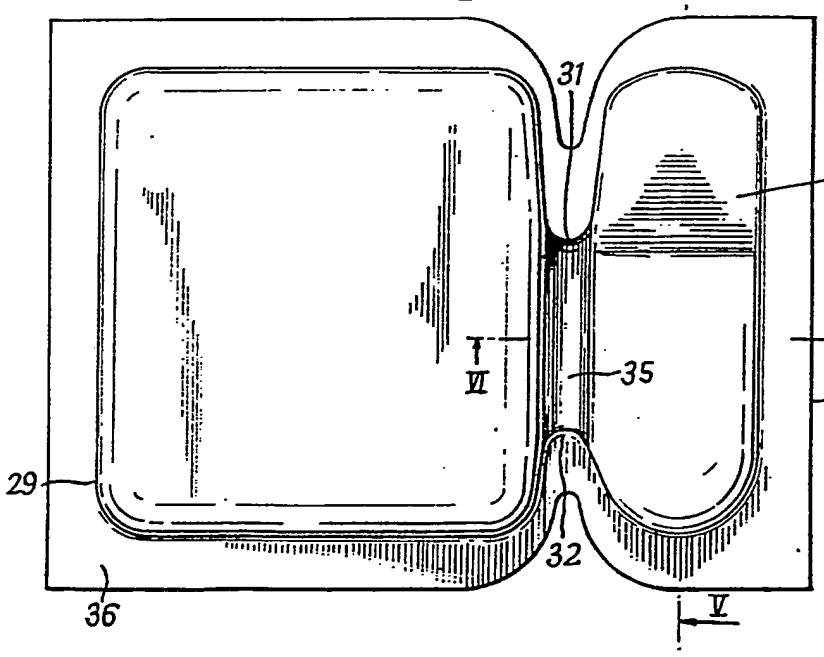


Fig.4.

1048690 PROVISIONAL SPECIFICATION
4 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheets 1 & 2

Fig.2.

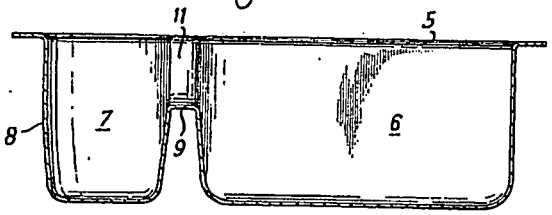
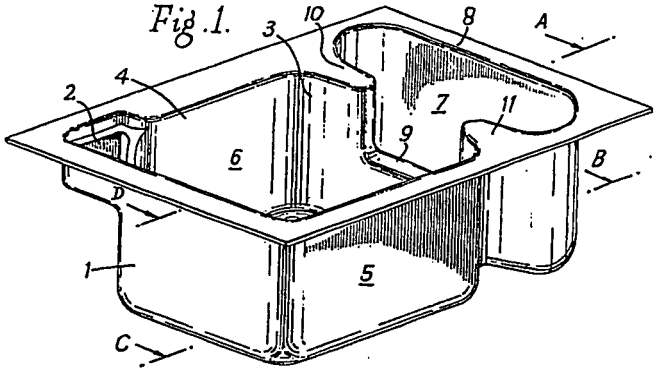


Fig.1.



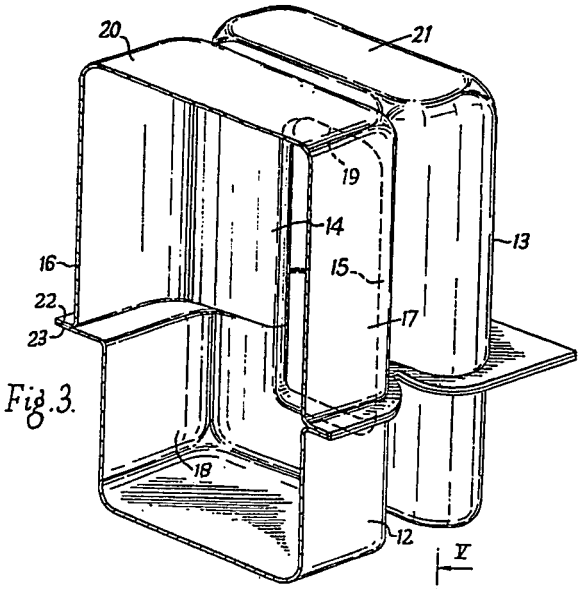


Fig.3.

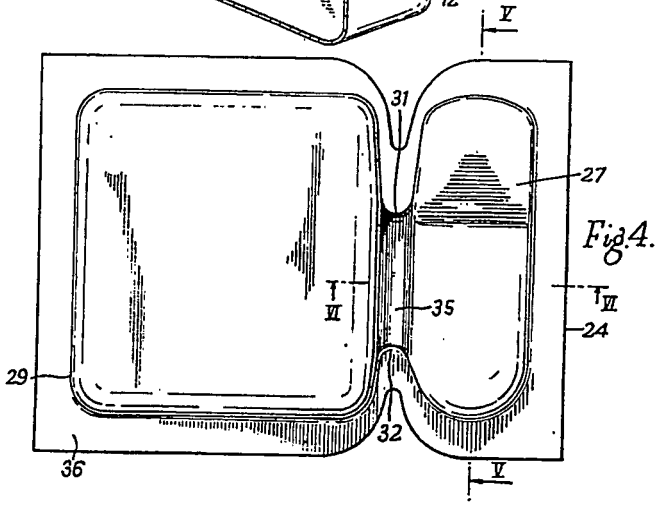


Fig.4.

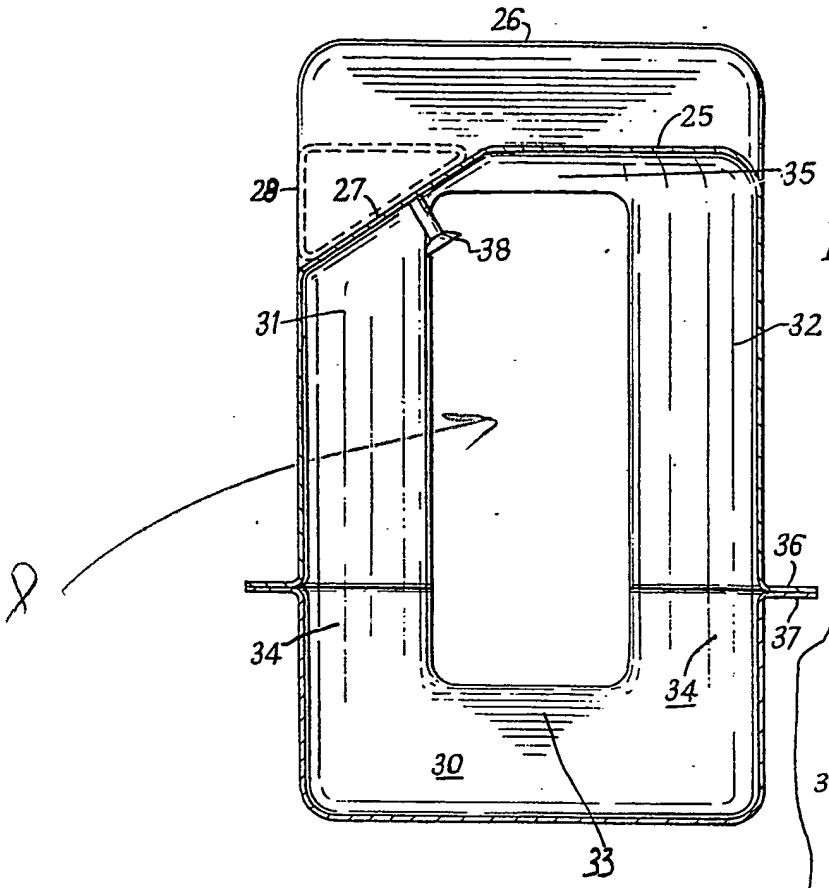


Fig.5.

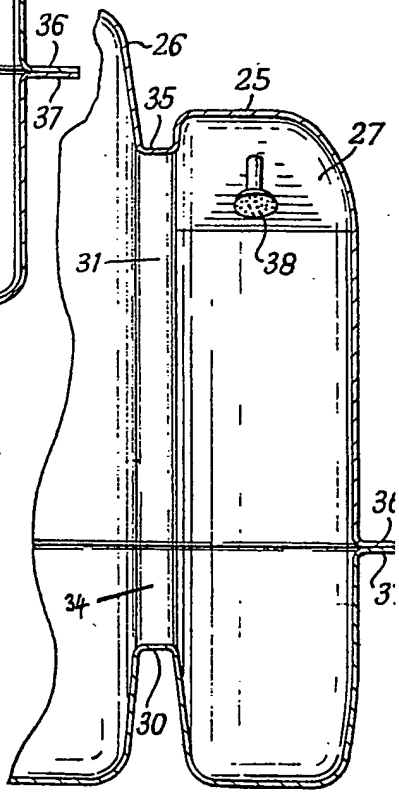
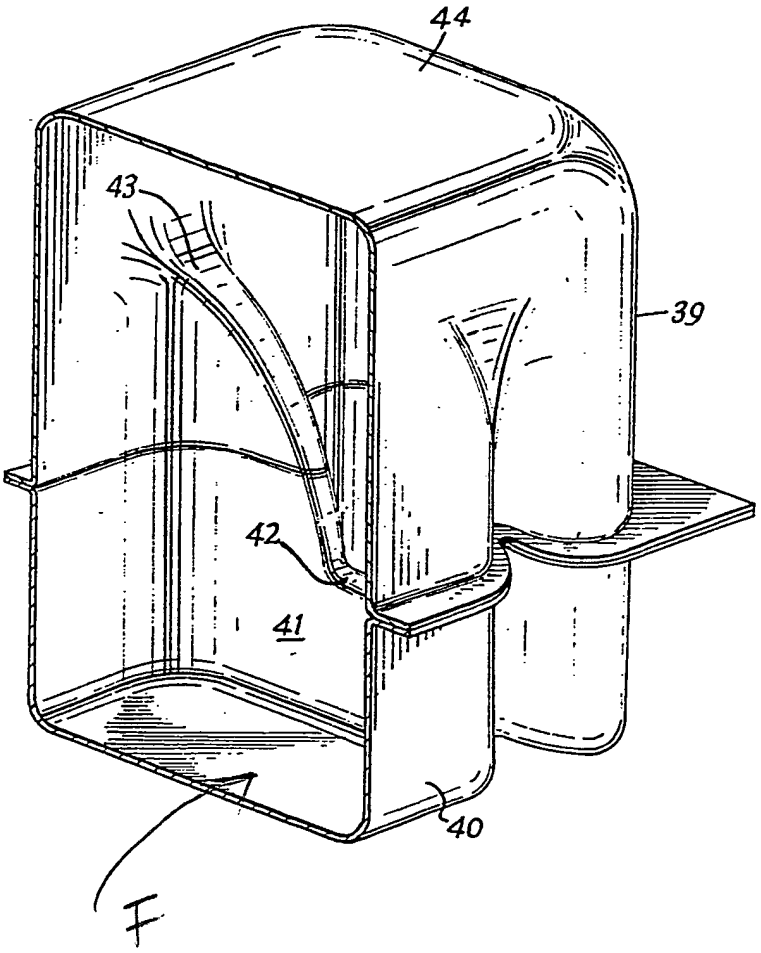


Fig.6.

1048690 PROVISIONAL SPECIFICATION
4 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheets 3 & 4

Fig. 7.

5.



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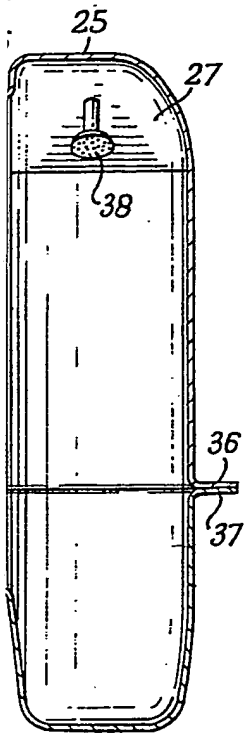

1048690 PROVISIONAL SPECIFICATION
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Sheets 3 & 4

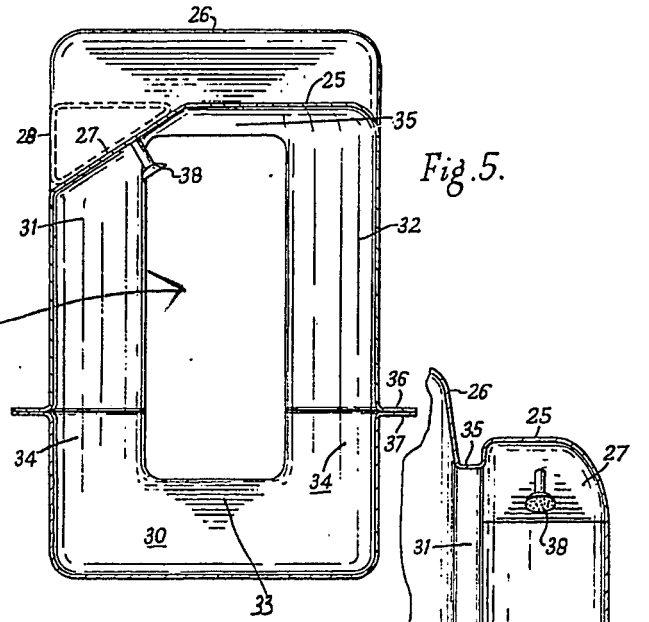

Fig. 5.

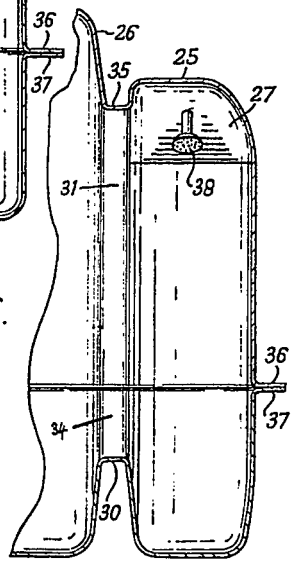

Fig. 6.

Fig. 7.